

Atty. Docket No.: CA1462
PATENT APPLICATION

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Application No.: 09/905,440

REMARKS

Claims 1-9 and 20 are all the claims pending in the application. Applicants amend claims 1, 9 and 20 to more accurately recite the invented subject matter. The aforesaid amendments are fully supported by the specification and, therefore, no new matter is introduced.

Applicant thanks the Examiner for courtesies extended to Applicant in connection with the Examiner's personal interview with Applicant's representative, which took place on April 19, 2006.

The Examiner rejected claims 1-6, 8-9 and 20 under 35 U.S.C. 103(a) as being allegedly unpatentable over Wahl et al. (U.S. patent No. 6,324,654) in view of Weber (U.S. patent No. 6,424,993). In response, Applicants amend independent claims 1, 9 and 20 and traverse this rejection in view of the aforesaid amendment and further in view of the following arguments.

In Response to Arguments section of the Office Action, the Examiner states that the Examiner interprets the initial copy procedure as any other copy procedure. In response, Applicants amended claims 1, 9 and 20 to clearly recite the differences between the initial and subsequent copy operations. Specifically, the initial remote copy procedure is defined as one involving copying of data initially stored in the first disk subsystem to the second disk subsystem, while the subsequent remote copy operation involves copying of data update from the first disk subsystem to the second disk subsystem. The above amendment makes the distinction between the aforesaid two copy procedures clear and the Examiner may no longer ignore it.

Additionally, Applicants respectfully note that the motivation to combine Wahl et al. Weber suggested by the Examiner in the previous two Office Actions is very suspect. The

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Examiner suggests that one of skill in the art would combine Wahl et al. with Weber to reduce transmission speed "because this feature can reduce operation costs." However, if one of skill in the art would in fact have been motivated to reduce costs, as suggested by the Examiner, he or she would have reduced the transmission speed for both the initial copy operation and the subsequent copy operations. It is not clear why Examiner chooses to apply Weber only to subsequent copy operations and not to initial copy operations. Thus, Applicants respectfully submit that the Examiner's rejection is based on arbitrary and impermissible hindsight.

Turning to the merits of the Examiner's rejection, Applicants respectfully submit that the combination of Wahl et al. and Weber lacks at least several features of the present invention specifically recited in the above amended independent claims. In addition, Applicants respectfully submit that Wahl et al. and Weber may not be properly combined because the teaching of Weber to reduce bandwidth utilization destroys the teaching of Wahl et al. to increase bandwidth by specifying multiple physical network paths between primary and secondary systems.

In more detail, Wahl et al. discloses a computer network remote data mirroring system, which maintains a remote mirror copy of a primary data volume by continuously writing data updates both to a local data device and a local journal log storage area. The journal log data is subsequently sent to a remote system via a network in the proper sequence. The remote device receiving the data commits the received log records to the remote mirror storage system.

In the Office Action, the Examiner alleges that Wahl et al. teaches all limitations of independent claims 1, 9 and 20, with the exception of reducing the speed of data transmission.

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Applicants respectfully disagree with the Examiner's characterization of Wahl et al. In particular, Wahl et al. fails to teach or suggest the initial copy procedure, wherein the data initially stored in the first disk subsystem is copied to the second disk subsystem. Wahl et al. further fails to teach or suggest subsequent remote copy operation involving copying of data updates from the first disk subsystem to the second disk subsystem. In other words, in contrast to the claims 1, 9 and 20, Wahl et al. does not make a distinction between the initial copy procedure involving copying of the data initially stored in the first disk subsystem and the subsequent remote copy operation involving copying of data updates from the first disk subsystem to the second disk subsystem.

The portion of Wahl et al. that the Examiner cites in support of the rejection, appearing at col. 4, lines 14-33 of Wahl et al., deals with synchronous or asynchronous data mirroring mode which has nothing to do with performing the initial and subsequent copy operations. Specifically, during the synchronous mode, the data update written to the local storage system is not available until the same data update is written to the remote system. In the asynchronous mode, the locally written data is available immediately, while the remote system is subsequently synchronized. As the Examiner would appreciate, the synchronous or asynchronous mirroring mode are relevant only to remotely copying data updates and are not relevant to the initial copy operation recited in independent claims 1, 9 and 20. Moreover, Wahl et al. never mentions performing both the initial and subsequent copy operations and does not teach to treat them differently from the point of view of the data transmission speed. In other words, in Wahl et al., there is only one type of data transmissions and all data transmissions are performed at the same

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speed. The second reference cited by the Examiner, Weber, does not remedy the aforesaid deficiency of Wahl et al. For this reason, claims 1, 9 and 20 recited at least several limitations not taught or suggested in the prior art and, therefore, these claims are patentable.

Applicants further respectfully submit that neither Wahl et al. nor Weber teach or suggest a system which uses one network transmission speed to perform one (initial) copy operation and then uses a different, lower speed, for the subsequent operations. The portion of Wahl et al. relied upon by the Examiner, at col. 25, lines 1-10, simply states that network bandwidth may be added to a network connection by specifying multiple physical network paths between the primary and secondary systems. There is no teaching or suggestion in Wahl et al. that the network transmission speed needs to be increased specifically for the initial copy operation and not for subsequent operations, as recited by the amended claims 1, 9 and 20. Assuming for the purposes of argument only, that the initial copy operation was taught in Wahl et al., to the extent that Wahl et al. contains any teaching of increasing the transmission speed, such teaching would apply equally to the initial and subsequent copy operations. On the other hand, claim 1, 9 and 20 require the increased transmission speed to be applied only to the initial copy operation, but not to subsequent copy operations. This feature of the invention is also not taught or suggested by the combination of references cited by the Examiner. Therefore, independent claims 1, 9 and 20 are patentable for this additional reason as well.

While the second reference, Weber, does mention the decreased network bandwidth utilization, any such teaching, likewise, would apply equally to all copy operations, including the initial copy operation as well as any subsequent ones. Assuming for the purposes of argument

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only, that the initial copy operation was taught, Weber would still fail to teach or suggest that the decreased transmission speed be applied only to the subsequent copy operations, but not the initial one. In other words, there is nothing in either Wahl et al. or Weber that differentiates the initial copy operation from the subsequent ones in terms of the network transmission speed. There is nothing that would suggest that a different speed should be used for the aforesaid two types.

Yet in other words, the Examiner simply found two references one of which proclaims that the bandwidth must be increased, while the other calls for its decrease. The Examiner then randomly applies the teaching of the first reference to the initial copy operation and the teaching of the other to all subsequent copies, without explaining in the first place why a person of skill in the art would be motivated to combine together the conflicting teachings of Wahl et al. and Weber and use a different transmission speed for the two types of copy operations.

When a prior art reference requires a selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art as a whole must suggest the desirability, and, thus the obviousness, of making the combination. Uniroyal, Inc. v. Rudken-Wyley Corp., 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). Applicants respectfully submit that the Examiner failed to properly identify the requisite motivation to combine Wahl et al. and Weber in the manner alleged in the Examiner's rejection.

Finally, Applicant notes that Wahl et al. and Weber are not properly combinable. As mentioned above, the Examiner uses Wahl et al. for the proposition that the network speed must

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be increased for the initial copy operation. On the other hand, the whole idea of Weber is to reduce the network bandwidth utilization by introducing random delays into system's responses to network requests. Therefore, the teaching of Weber would destroy the very idea for which the Examiner utilizes Wahl et al. As it is well known, references cannot properly be combined with each other when such would result in destroying that on which the invention of one of the references is based. Ex parte Hartmann, 186 U.S.P.Q. 366, 367 (Pat. Off. Bd. App. and Inter. 1974). Therefore, Applicant respectfully submits that independent claims 1, 9 and 20 are patentable for this additional reason as well.

With respect to Examiner's rejection of claims 2-6 and 8, Applicants respectfully submits that the Examiner's rejection of these claims is rendered moot by the present amendment of the parent claim 1 and that these claims are patentable at least due to their dependence on the patentable amended independent claim 1.

The Examiner rejected claim 7 under 35 U.S.C. 103(a) as being allegedly unpatentable over Wahl et al. (U.S. patent No. 6,324,654) in view of Weber (U.S. patent No. 6,424,993) and further in view of Gallant et al. (U.S. patent pub. No. 2002/0067727). Applicants respectfully traverse this rejection. Specifically, the Examiner's rejection of claim 7 is rendered moot by the present amendment of the parent claim 1 and this claim is patentable at least due to its dependence on the patentable amended independent claim 1.

In view of the above amendment, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue

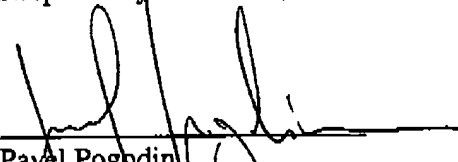
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which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


Pavel Pogodin
Registration No. 48,205

SUGHRUE MION, PLLC
Telephone: (650) 625-8100
Facsimile: (650) 625-8110

MOUNTAIN VIEW OFFICE

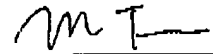
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CUSTOMER NUMBER

Date: April 28, 2006

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this AMENDMENT UNDER 37 C.F.R. § 1.116 is being facsimile transmitted to the U.S. Patent and Trademark Office this 28th day of April, 2006.



Mariann Tam